



Fresh Mushrooms and Cognition:

Mushroom Council® Shares Research Overview

September 20, 2023 – Researchers have been exploring the potential role of fresh mushroom consumption in cognitive function. While more research is needed, the emerging evidence is encouraging, according to the Mushroom Council®. Below are some highlights from the current body of evidence:

- **A cross-sectional study** exploring the association between mushroom intake and mild cognitive impairment (MCI) among 663 Singaporean adults aged 60 and older found that individuals who consumed more than two servings of mushrooms per week – 1 ½ cups total – had reduced odds of having MCI compared to people who consumed mushrooms less than once per week.¹ Fresh golden, oyster, shiitake and white button mushrooms; dried mushrooms; and canned button mushrooms were included in the analysis of mushroom intake.
- **A prospective cohort study** examined the relationship between mushroom consumption and incident dementia in a population of 13,230 elderly Japanese subjects aged 65 and older.² Participants who consumed mushrooms one to two times per week and more than three times per week had a 5% and 19% lower chance of developing dementia, respectively, compared to people who consumed mushrooms less than one time per week. After further analysis by gender, an inverse relationship between mushroom consumption and incident dementia was only found in women.
- **A double-blind, parallel-group, placebo-controlled trial** investigated the impact of lion's mane mushroom, *Hericium erinaceus*, supplementation on cognitive impairment among 30 Japanese men aged 50 to 80 years with MCI.³ Participants were randomized to two groups: one group took tablets containing lion's mane in dry powder form three times a day for 16 weeks and the other group was given a placebo. Participants were observed for 4 weeks after consuming the supplement for 16 weeks. Compared to the placebo group, the lion's mane group showed significantly increased scores on the cognitive function scale, based on the Revised Hasegawa Dementia Scale (HDS-R), throughout the trial. Four weeks after stopping supplementation, the scores decreased significantly. The placebo group scores also showed significant increases at weeks 8 and 16 compared to the start of the trial. Researchers believe possible causes of an increase might be the placebo effect or familiarity with the cognitive function scale.

- **A cross-sectional study** looking at the association between mushroom consumption and cognitive performance among 2,840 older adults aged 60 years and older found that greater mushroom intake was associated with certain cognitive performance tests.⁴

Findings from cross-sectional and prospective cohort studies do not demonstrate cause-and-effect relationships, only associations. In addition, these studies cannot be generalized to the broader population, relied on self-reported dietary information, which may not always be accurate, and residual confounding could have impacted the results even though researchers adjusted for a range of confounding factors, such as age, education, lifestyle behaviors and more.

Future clinical trials in broader populations will help shed light on the unique role of mushrooms in cognition and overall health.

About the Mushroom Council:

The Mushroom Council is composed of fresh market producers and importers who average more than 500,000 pounds of mushrooms produced or imported annually. The mushroom program is authorized by the Mushroom Promotion, Research and Consumer Information Act of 1990 and is administered by the Mushroom Council under the supervision of the Agricultural Marketing Service. Research and promotion programs help to expand, maintain and develop markets for individual agricultural commodities in the United States and abroad. These industry self-help programs are requested and funded by the industry groups that they serve. For more information, visit mushroomcouncil.com.

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Sources:

¹ Feng L, Cheah IK, Ng MM, et al. The Association between Mushroom Consumption and Mild Cognitive Impairment: A Community-Based Cross-Sectional Study in Singapore. *J Alzheimer's Dis.* 2019;68(1):197-203. doi:10.3233/JAD-180959

² Zhang S, Tomata Y, Sugiyama K, Sugawara Y, Tsuji I. Mushroom consumption and incident dementia in elderly Japanese: The Ohsaki Cohort 2006 study. *J Am Geriatr Soc.* 2017;65(7):1462Y1469.

³ Mori K, Inatomi S, Ouchi K, Azumi Y, Tuchida T. Improving effects of the mushroom Yamabushitake (*Hericium erinaceus*) on mild cognitive impairment: a double-blind placebo-controlled clinical trial. *Phyther Res.* 2009;23(3):367Y372.

⁴ Ba DM, Gao X, Al-Shaar L, et al. Mushroom intake and cognitive performance among US older adults: the National Health and Nutrition Examination Survey, 2011-2014. *Br J Nutr.* 2022;128(11):2241-2248. doi:10.1017/S0007114521005195